

ABSTRACT OF THE DISCLOSURE

The present invention provides a nitride semiconductor laser by which stable high power room-temperature continuous-wave oscillation in fundamental mode is possible. A semiconductor laser diode comprising: a GaN layer; a first conductive type nitride semiconductor layer formed on said GaN layer and made of $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0.04 \leq x \leq 0.08$); a first conductive type clad layer formed on said first conductive type nitride semiconductor layer and made of nitride semiconductor; a core area formed on said first conductive type clad layer and made of nitride semiconductor, said core area including an active layer to emit light by electric current injection; and a second conductive type clad layer formed on said core area and made of nitride semiconductor.

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